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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/890,425	02/19/2002	Harold G. Brown	2059-0103P	1812

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EXAMINER	
PRATS, FRANCISCO CHANDLER	
ART UNIT	**PAPER NUMBER**
1651	

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/890,425	BROWN ET AL.	
	Examiner	Art Unit	
	Francisco C. Prats	1651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 3-1-05, 4-26-05.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) See Continuation Sheet is/are pending in the application.

4a) Of the above claim(s) 3,8,9,13,24-27,30-35,52,60,63-65,67,96-111 and 116 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) See Continuation Sheet is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 3-29-05.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 1, 2005, has been entered. The preliminary amendment file April 26, 2005, has been entered.

Claims 2, 3, 6-9, 11-14, 19, 22-27, 30-37, 41, 42, 46-54, 59, 60, 63-67, 69, 70 and 72-121 are pending.

Election/Restrictions

Applicant's election with traverse, in the paper filed December 15, 2003, of the group II invention, directed to glycosaminoglycan-containing compositions which do not contain essential oils, is acknowledged. Applicant's election of hyaluronic acid as the therapeutic compound is also acknowledged.

Claims 3, 8, 9, 13, 24-27, 30-35, 52, 60, 63-65, 67, 96-111 and 116 are withdrawn from further consideration pursuant to 37

CFR 1.142(b), as being drawn to nonelected inventions, there being no allowable generic or linking claim. As noted above, applicant timely traversed the restriction (election) requirement in the paper filed December 15, 2003.

As amended 2, 6, 7, 11, 12, 14, 19, 22, 23, 36, 37, 41, 42, 46-51, 53, 54, 59, 66, 69, 70, 72-95, 112-115, 117 and 118-121 read on compositions comprising a glycosaminoglycan in the absence of an essential oil, the invention elected by applicant, and encompass hyaluronic acid, the species of glycosaminoglycan elected by applicant. Amended claims 2, 6, 7, 11, 12, 14, 19, 22, 23, 36, 37, 41, 42, 46-51, 53, 54, 59, 66, 69, 70, 72-95, 112-115, 117 and 118-121 are therefore examined on the merits, to the extent they read on compositions comprising hyaluronic acid.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 2, 6, 7, 11, 12, 14, 19, 22, 23, 36, 37, 41, 42, 46-51, 53, 54, 59, 66, 69, 70, 72-95, 112-115, 117, 118, 120 and 121 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Specifically, the recitation "will cause an adverse reaction when injected into monkey eyes but will not cause an adverse reaction when applied to the skin of mammals" lacks support in the specification as originally filed, and is therefore considered new matter. More specifically, the amendment of the claim language from "cause reactions" to "cause an adverse reaction" lacks support in the as-filed specification. Note specifically that page 15 of the specification states only that injection into monkey eyes "will cause reactions." There is nothing in the as-filed specification suggesting what that reaction is, much less whether that reaction would be "adverse" as now recited.

Also, the recitation in certain claims requiring 0.0001 mg to 100 mg of the polysaccharide to be in the composition is

considered new matter. Specifically, the only recitation of this range in the as-filed specification appears on line 29 of page 26 of the specification. However, that sentence states that the ***dosage*** should be 0.0001 mg and 100 mg, not that the composition possesses that range of active ingredient amounts. Moreover, taken in context, the sentence on page 26 appears to be stating a dosage for a mixture of hyaluronic acid and chondroitin sulfate, whereas the claims are not so limited.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2, 6, 7, 11, 12, 14, 19, 22, 23, 36, 37, 41, 42, 46-51, 53, 54, 59, 66, 69, 70, 72-95, 112-115, 117, 118, 120 and 121 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recitation "adverse reaction" is indefinite because the criteria for what is "adverse" is entirely subjective inasmuch as a reaction considered to be adverse by one practitioner would not necessarily be considered adverse by another practitioner.

Thus, because on the current record there are no objective criteria by which the term "adverse" can be construed, the metes and bounds of the claim term "adverse" are not clear.

Claims 50, 51 and 95 are indefinite because of the recitation "the low purity complex carbohydrate." Specifically, the term lacks antecedent basis in the claims because the previous claim lacks any reference to a "low purity complex carbohydrate." Moreover, the term "low" is entirely subjective, and therefore it is unclear what the purity must be. Claim 93's recitation of "low purity hyaluronic acid" is indefinite for the same reasons.

Claim 121 is indefinite because of the recitation "pharmacologically effective amount." It is unclear what pharmacological effect is being claimed. Moreover, the claim makes no sense because the preamble recites a "nutritional supplement." Thus, the claim is directed to nutritional composition, not a pharmaceutical composition, and it is unclear why the sole active ingredient in a nutritional supplement would be present in a pharmacologically effective amount.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 23, 42, 50, 51, 59, 66, 70, 72-76, 78, 80, 81, 91-95, 112, and 117-121 are rejected under 35 U.S.C. 102(b) as being anticipated by Balazs (U.S. Pat. 4,303,676).

Balazs discloses a product comprising a low molecular weight hyaluronate fraction having a molecular weight of 10,000 to 200,000, a high molecular weight hyaluronate fraction having a molecular weight from 1 to 4.5 million, 50 to 400% protein (based on the weight of the hyaluronate), and water. See column 1, line 64 through column 2, line 6. In a preferred embodiment the product, designated as "HPE", is a visco-elastic liquid containing about 1% sodium hyaluronate, 0.5 to 1.5% protein and 97.5 to 98.5% water. See column 4, lines 59-68. The new limitation in the claims requiring an adverse reaction upon injection into monkey eyes is considered to be met, because the term "adverse reaction" can encompass even a minuscule negative reaction to the composition, and because the HPE product

contains a relatively high amount of protein, and because the "adverse reaction" limitation encompasses the injection of any amount of the composition, including amounts which would cause physical damage to the eyes. The limitation requiring no reaction on the skin is clearly met by Balazs. See column 4, lines 33-43, wherein HPE produces no reactivity with skin. The requirement in claim 72 of "up to about 5% impurities" is considered to be met by Balazs because of the 0.5 to 1.5% protein present in the HPE product. Because the claimed ingredients are present in the claimed concentrations, a holding of anticipation is required.

It is noted that the composition is not designated as being for oral administration, or that it has any nutritional value. However, as discussed above, the HPE composition disclosed by Balazs is in liquid form, and therefore clearly can be administered orally, and therefore can be considered a food or drink or nutrient. Moreover, the product clearly can be absorbed mucosally. Note that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of

making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). Because Balasz's compositions can be administered orally, and because they are in the form of food and drink, as those terms are properly construed most broadly, a holding of anticipation is clearly required.

All of applicant's argument regarding the holding of anticipation over Balazs has been fully considered but is not persuasive of error. Note that claim 72 has now been included in the rejection under § 102(b) over Balazs. In sum, because Balazs discloses a product which can be applied in the same manner as the intended use recitations recited in the rejected claims, a holding of anticipation is required.

Claims 22, 23, 42, 50, 51, 59, 66, 70, 72-76, 78, 80, 81, 91-95, 112 and 117-121 are rejected under 35 U.S.C. 102(b) as being anticipated by Turley et al (WO 97/25051).

Turley discloses orally administrable hyaluronic acid compositions. See abstract. The preferred products are disclosed as being in liquid drink form. See, e.g., page 12, lines 20-22. The molecular weight of the hyaluronic acid can range from 30,000 to 2,000,000 Daltons, thereby encompassing all

of the molecular weight fractions recited in the rejected claims. See claim 1, on page 26. In view of the protein present in the composition (see pages 7-11, disclosing the makeup of the compositions) the requirement of adverse reactions upon injection into monkey eyes is considered to be met, particularly since, as discussed above, the "adverse reaction" limitation encompasses the injection of any amount of the composition, including amounts which would cause physical damage to the eyes. Because the claimed ingredients are present in the claimed concentrations, a holding of anticipation is required.

All of applicant's argument regarding the Turley reference has been fully considered but is not persuasive of error. While applicant points to a statement in Turley discussing the undesirable properties of hyaluronic acid of over 1,000,000 Daltons, this statement must be taken in the full context of the reference's disclosure (claim 1 on page 26), which unequivocally states that the high molecular weight can be used. Even conceding that the high molecular weight hyaluronic acid is a non-preferred embodiment, it is well established that non-preferred embodiments in the prior art are properly considered to anticipate and/or render obvious claims encompassing the non-preferred subject matter.

Also, while applicant urges that Turley does not use hyaluronic acid of the claimed purity, applicant does not point to any facts supporting this statement. In fact, Turley discloses a "topical grade" HA which contains significant protein but can be administered orally upon sterilization (see pages 8 and 9). Turley's preparation thus appears identical to the "low purity" product described by applicant (e.g., specification at pages 14-15).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to

point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2, 6, 7, 11, 12, 14, 19, 22, 23, 36, 37, 41, 42, 46-51, 53, 54, 59, 66, 69, 70, 72-95, 112-115, 117 and 118-121 are rejected under 35 U.S.C. 103(a) as being unpatentable over Balazs (U.S. Pat. 4,303,676).

As discussed above, because Balazs explicitly discloses orally administrable compositions of hyaluronic acid in liquid form, Balazs is considered to anticipate numerous embodiments recited in applicant's claims. Balazs differs from certain of the claimed embodiments in that Balazs does not disclose that the compositions comprise 0.0001 mg to 100 mg of HA. However, Balazs clearly discloses that the formulations therein may contain from 0.05 to 5% of the HPE liquid composition. See column 5, lines 32-33. As discussed above, the HPE composition in turn contains about 1% sodium hyaluronate. Thus, in Balazs' preferred embodiment of a liquid of about 100 ml (spanning columns 5 and 6), the composition could contain up to 5 grams of HPE, which in turn would contain 0.05 grams (50 milligrams) of hyaluronic acid. Thus, while not explicitly disclosed, the

claimed amounts of HA are within those suggested by Balazs as being suitable for use therein. A holding of obviousness is therefore required.

Balazs also differs from certain embodiments recited in the claims under examination by failing to explicitly disclose the use of all of the claimed oral administration forms, including tablets, capsules and food supplements, including animal treats, as the physical form of the orally administrable hyaluronic acid compositions disclosed therein. However, in view of Balazs' clear disclosure of a liquid form suitable for oral administration, the artisan of ordinary skill would have considered all of the claimed liquid oral vehicles obvious in view of Balazs. A holding of obviousness is therefore required.

Claims 2, 6, 7, 11, 12, 14, 19, 22, 23, 36, 37, 41, 42, 46-51, 53, 54, 59, 66, 69, 70, 72-95, 112-115, 117 and 118-121 are rejected under 35 U.S.C. 103(a) as being unpatentable over Turley et al (WO 97/25051).

As discussed above, because Turley explicitly discloses orally administrable compositions of hyaluronic acid in drink form, Turley is considered to anticipate numerous embodiments recited in applicant's claims. Turley differs from certain of the claimed embodiments in that Turley does not disclose that

the compositions comprise 0.0001 mg to 100 mg of HA. However, Turley clearly discloses that the dosage for the therapeutic methods disclosed therein may contain from 3 to 100 mg/kg body weight of the patient. See claim 1, page 26. Thus, the selection of a specific amount of active ingredient in a dosage form suitable for Turley's disclosure would have been an obvious matter of judicious selection on the part of the artisan of ordinary skill, said artisan recognizing that pill/tablet size, etc. were result effective parameters routinely optimized in the pharmaceutical arts at the time of applicant's invention. For example, at Turley's 3 mg/kg dosage for a 60 kg adult, one could administer two 90 mg tablets. Thus, one of ordinary skill in the art would have been motivated to have created any dosage forms, such as the proposed 90 mg tablets, suitable for administering the dosage amounts indicated by Turley.

Turley also differs from certain embodiments recited in the claims under examination by failing to explicitly disclose the use of all of the claimed oral administration forms, including tablets, capsules and food supplements, including animal treats, as the physical form of the orally administrable hyaluronic acid compositions disclosed therein. However, in view of Turley's clear disclosure that oral administration was a suitable method of giving hyaluronic acid to patients, the artisan of ordinary

skill would have considered all of the claimed oral vehicles obvious forms of administering the hyaluronic acid compositions of Turley. A holding of obviousness is therefore required.

Claims 2, 6, 7, 11, 12, 14, 19, 22, 23, 36, 37, 41, 42, 46-51, 53, 54, 59, 66, 69, 70, 72-95, 112-115, 117 and 118-121 are rejected under 35 U.S.C. 103(a) as being unpatentable over Turley et al (WO 97/25051) in view of Gallina (WO 92/22585).

As discussed above, because Turley explicitly discloses orally administrable compositions of hyaluronic acid in drink form, Turley is considered to anticipate numerous embodiments recited in applicant's claims. Turley differs from certain of the claimed embodiments in that Turley does not disclose the preparation of a suppository, per se.

However, Gallina discloses rectally administrable hyaluronic acid compositions. See abstract. The products are disclosed as being suitably "incorporated into numerous types of gels, creams, ointments, lotions, pastes, salves, liquids, and/or suppository vehicles." See page 6, lines 17-20. The hyaluronic acid useful in the compositions may have a molecular weight from 50,000 up to 8,000,000 Daltons. See page 1, lines 23-28. Thus, the artisan of ordinary skill practicing Turley's invention clearly would have been motivated to have formulated

the HA preparations in the form of suppositories and rectally administrable forms, based on Turley's disclosure of the suitability of administering hyaluronic acid by that method. Alternatively, the artisan of ordinary skill practicing Gallina's method would have been motivated to have used the hyaluronic acid preparations disclosed by Turley in suppository or rectally administrable forms, based on the fact that Turley's HA preparations were known to possess the critical agent disclosed by Gallina, and were disclosed by Turley as having a therapeutic effect.

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Francisco C. Prats whose telephone number is 571-272-0921. The examiner can normally be reached on Monday through Friday, with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Wityshyn can be reached on 571-272-0926. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Francisco C. Prats
Primary Examiner
Art Unit 1651

FCP

Continuation of Disposition of Claims: Claims pending in the application are 2,3,6-9,11-14,19,22-27,30-37,41,42,46-54,59,60,63-67,69,70 and 72-121.

Continuation of Disposition of Claims: Claims rejected are 2,6,7,11,12,14,19,22,23,36,37,41,42,46-51,53,54,59,66,69,70,72-95,112-115 and 117-121.